Response to US Environmental Protection Agency Evaluation of the Biological Assessment for the San Joaquin Renewables Class VI Project.

Introduction

In response to the U.S. Environmental Protection Agency evaluation of the previously submitted biological assessment for the San Joaquin Renewables (SJR) Class VI Well permit application, the information and analyses described in this report addresses the potential impact of implementing the SJR project on plant and animal species that are federally designated as having a "Threatened" or "Endangered" status by the U.S. Fish and Wildlife Service (USF&WS).

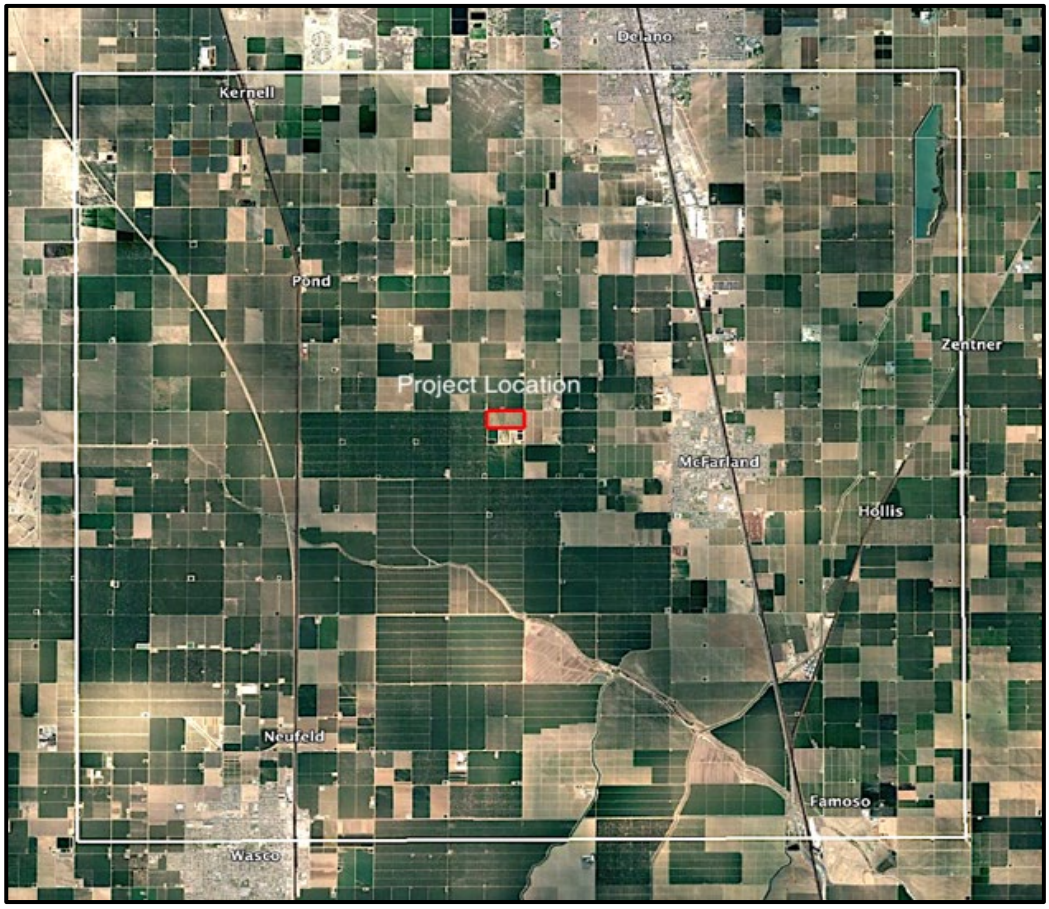
The USF&WS website for the USF&WS Information for Planning and Consultation (IPaC[1]) was accessed and a letter response was obtained to assist in this analysis. The USFWS letter is attached. The primary criteria used in the analyses of potential impacts was presence, either 1) a current presence that is credibly documented, or 2) the presence of a full set of essential habitat requirements that would have a high likelihood of producing a sustainable population.

Current Conditions Associated with the Project Study Area

The parcel on which the Project is to be implemented is Kern County Assessor's Parcel number 060-050-24, a tract occupying 80 acres. This study addressed conditions on this parcel and on lands with immediate adjacency. In addition, primarily due to the mobility of the San Joaquin Kit Fox, a secondary study area was addressed that was more regional in nature. The 86,800-acre (136 sq. mi.) regional assessment area, presented over satellite imagery accessed through the Google Earth ("GE") platform[2], is shown in Figure 1, with the perimeter bordered with a white line and the Project's center-point location (polygon bordered in red). An examination of this figure shows the overriding dominance of surface area under intensive agricultural management. Close interpretation of the GE satellite imagery showed an insignificant surface area within the regional planning area characterized by conditions considered to be natural, or at least pre-agricultural.

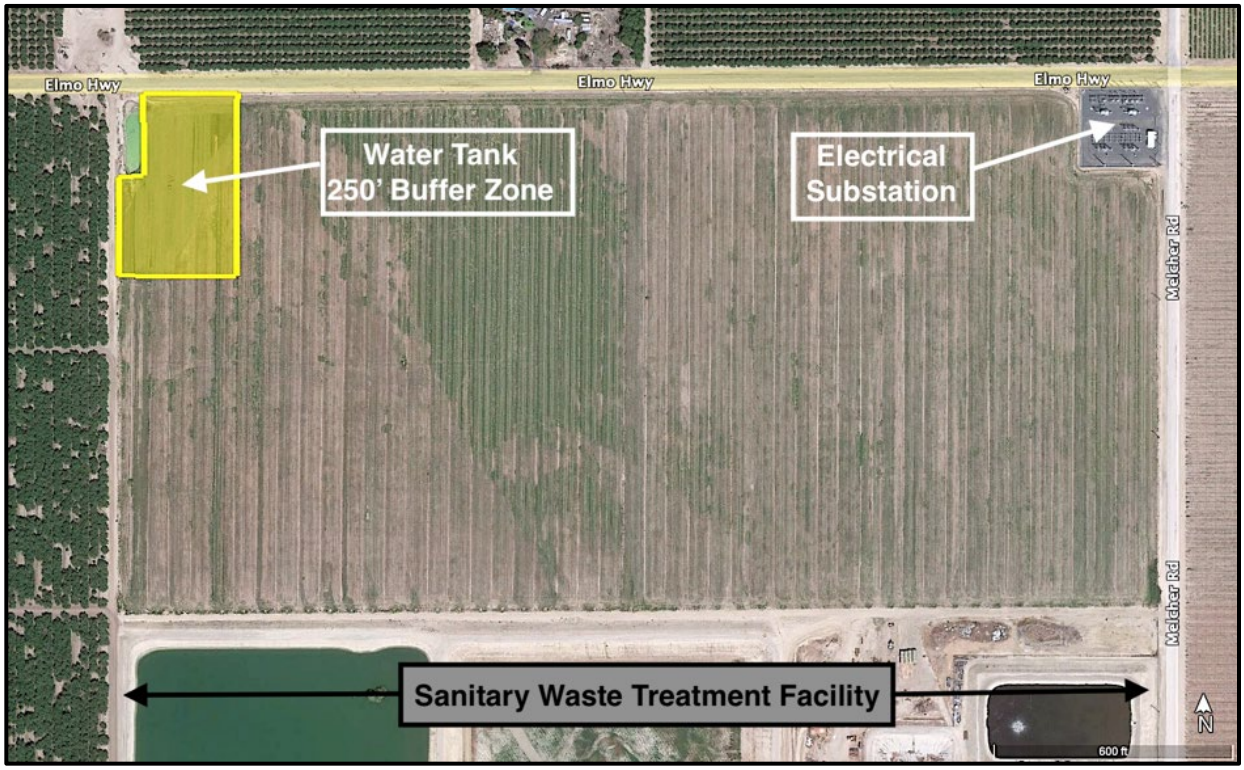
[1] https://ipac.ecosphere.fws.gov
[2] Google Earth Pro. May 12, 2022.

Figure 1. Regional placement of the primary study site.



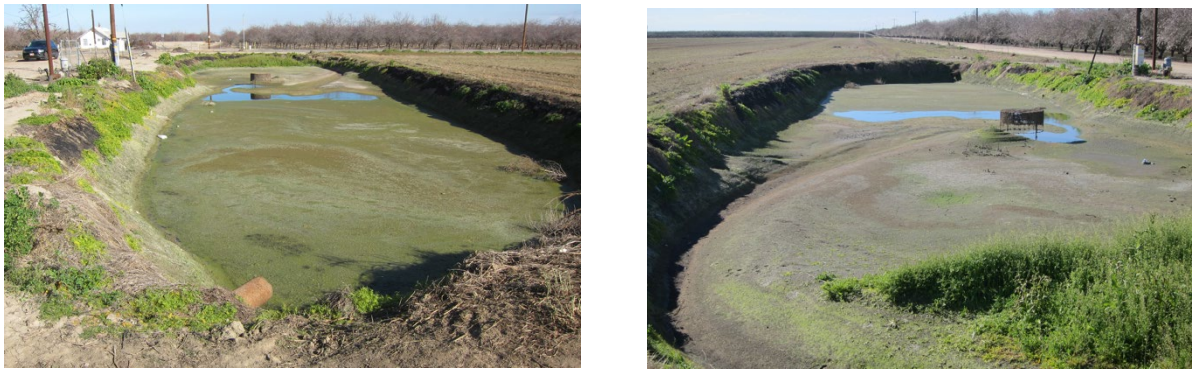
The current conditions on the project parcel, and in immediately adjacent areas, are shown in Figure 2. The predominant features shown are the low-diked basin configuration typical of alfalfa production, a small tail-water tank located in the northwestern corner, along with a proposed 250-foot development exclusion zone (yellow shaded), an electrical substation, and elements of a sanitary waste processing facility that covers the full southern boundary of the Project parcel.

Figure 2. The Project Parcel



For the purposes of this assessment the term "tank" refers to a water holding facility whose management is purely a function of operational needs as opposed to a "pond" whose water inflow and outflow is the product of natural conditions. Figures 13 (a) and 3 (b) shows two views of the tank where can be seen, 1) the lack of riparian vegetation and 2) the water control equipment (sheltered drain, input pipes, and electrical pump).

Figures 3 (a) and (b). Two views of the tailwater tank, its water control system, and the significant absence of riparian vegetation



(a) (b)

The parcel is bordered on the north by a paved road and on the three other sides by natural-surfaced access roads. This parcel has been in constant cultivation for more than 66 years[3] with alfalfa the preferred crop. However, due to auto-toxicity concerns with alfalfa it is often rotated with corn, cereal-grain, or hay crops[4]. Alfalfa site preparation requires typical tillage procedures including mold-board plowing (or chiseling) and disking. The combination of the tillage methods completely restructures the surface layer typically to a depth of approximately 12". This parcel is annually prepared out to the road margins, leaving no un-tilled area as shown in Figure 4. Accepted soil management includes maintaining pH levels between 6.7 and 6.9.

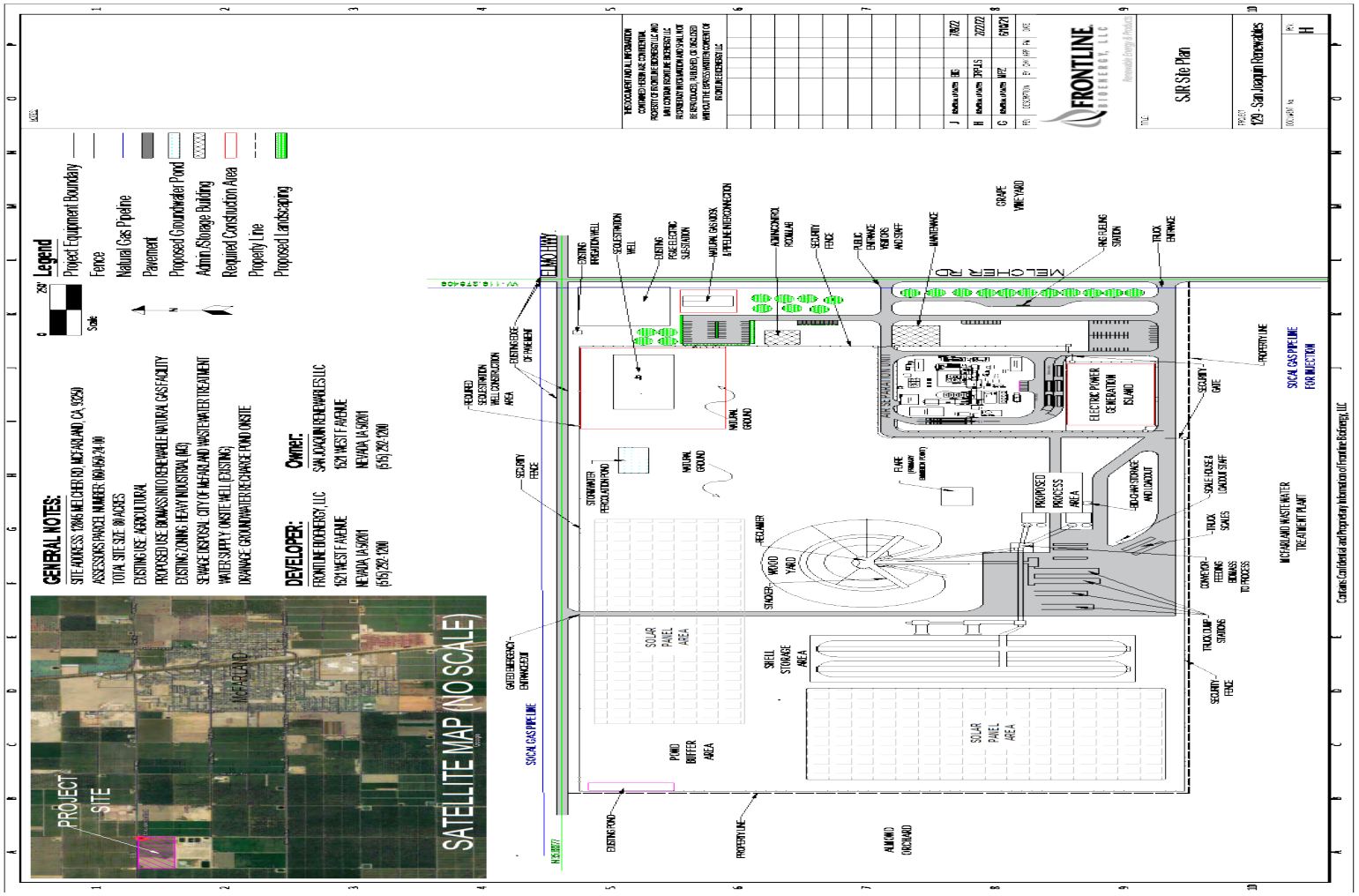
Figure 4. A view of showing the tillage taken out to the edge of the access road

Proposed Project

A site plan of the proposed installation is presented in Figure 5 below. The actions associated with the construction and ongoing operations of this facility were those considered when assessing the nature and intensity of effects on the subject species should the project be implemented.

[3] Front Line Bioenergy. November, 2019
[4] American Society of Agronomy, Inc. 2011.

Figure 5. Site Plan



Assessment Approach and Procedures

The response letter from the Sacramento Office of the USF&WS[5] identified seven animal species federally designated as "threatened", "endangered", or candidates for listing, that had the potential to be affected by actions taken to construct and operate the proposed project. These seven species were the subject of the assessments reported on herein and are:

Blunt-nosed Leopard Lizard (*Gambelia silus*)

Delta Smelt (*Hypomesus transpacificus*)

Giant Garter Snake (*Thamnophis gigas*)

Monarch Butterfly(*Danaus plexippus*)

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

Tipton Kit Fox (*Dipodomys nitratoides nitratoides*)

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

The impact assessment procedure started with a comprehensive research of publicly available material pertaining to the life cycle requirements of the subject species identified in the U.S. Fish and Wildlife Services (USF&WS) response letter dated June 22, 2022[6]. Three key information types could be made available through this research:

- Whether any of the subject species had a recorded presence within, or adjacent to, the project site or;
- If information regarding documented presence was inadequate for any, or all, of the subject species, whether the project fell within their currently known range, and;
- Habitat relationship information.

Complete information regarding population parameters (principally size and distribution) for many of these designated species is inadequate for justifying conservation management decisions. This situation forces a shift of focus onto the available habitat relationship information the assessment proceeds through a two-step process:

- Through a comprehensive research of available literature identify the specific habitat conditions required for a species to survive on a life cycle basis, and,
- Collect information on habitat elements available, 1) within the defined project impact area, 2) on lands immediately adjacent to the project site, and 3) within a reasonable regional study area.

[5] USF&WS.June 22, 2022.
[6] ibid

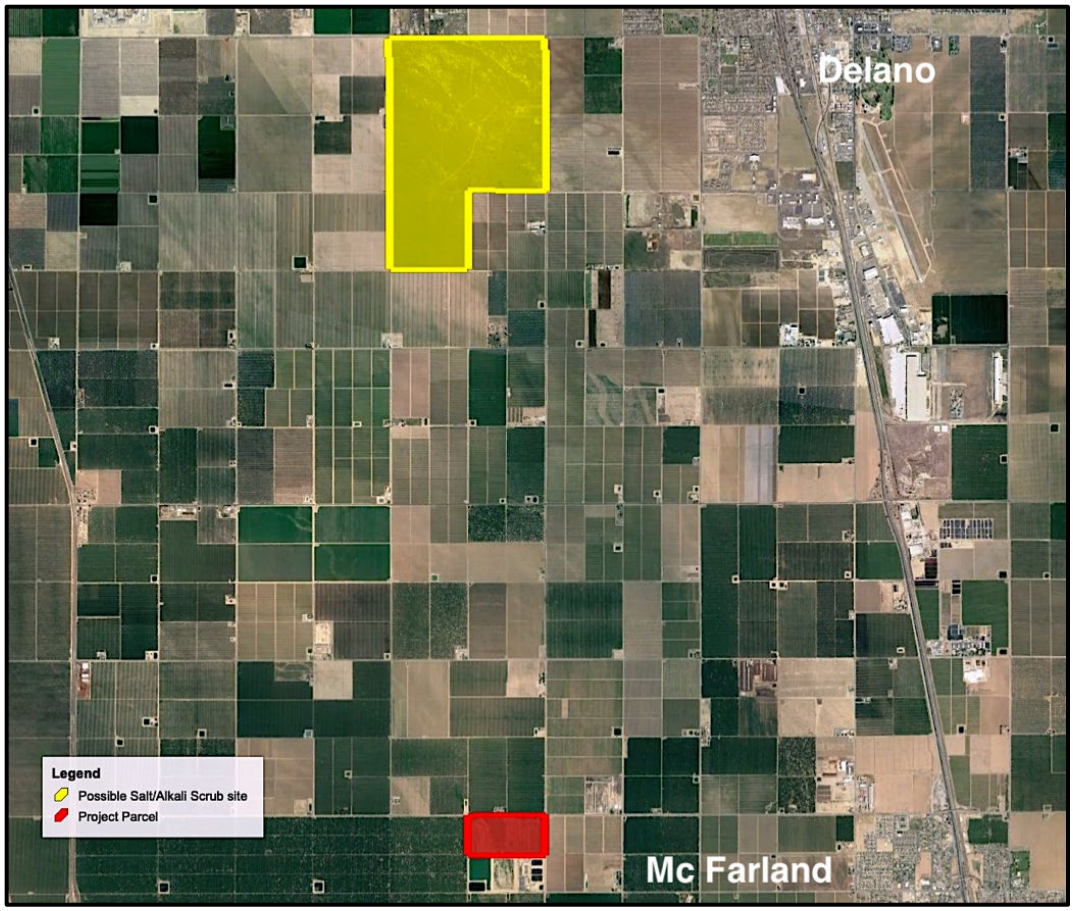
Initial Evaluation of the Full Set of Subject Species

A basic procedure typically employed when conducting impact assessments for an array of several species is to make an initial determination whether any of the subject species do not have a reasonable likelihood of presence within, or adjacent to, the project site, and would, therefore, not warrant further consideration in the impact assessment. The initial evaluation conducted as part of this study involved considering the following information categories: 1) the population parameter information available for each subject species, 2) habitat relationship information available for each subject species, and 3) regional availability of habitat types important to each of the subject species.

Regional Habitat Availability Assessment

In addition to the comprehensive literature research a regional assessment of habitat availability was completed. The area evaluated was the 86,800-acre block shown in Figure 1. The primary objective of conducting this assessment was to identify whether site conditions were present within the larger project setting that 1) constituted habitat elements important to the needs of the species addressed in this study, 2) affected their particular behaviors, and/or 3) constituted barriers to species movement. This process, one based on interpretation of the GE satellite imagery, is demonstrated by the information presented in Figure 1.6. In this specific case the regional study area was searched for satellite image characteristics representing areas occupied by Salt or Alkali Scrub formations as these had a close habitat relationship with the Blunt-nosed Leopard Lizard and Tipton Kangaroo Rat. Figure 6 shows the single example where potential habitat conditions, specifically Salt/Akali Scrub (yellow outlined and shaded), were reasonably adjacent to the project location (red outlined and shaded). However, although present this area of habitat potential was at a distance of 4.6 miles from the project location and surface conditions (roads, cleared areas, etc.) between the two sites were not generally conducive to movement of wildlife.

Figure 6. A portion of the regional area examined for pertinent habitat elements



Results of the Initial Subject Species Assessment

Results of conducting the two-part initial assessment (literature search and the regional habitat survey) show that the following conditions, related to presence likelihood of the subject species, characterizing the project's regional setting include:

- No Critical Habitats overlaid the project areas[7]
- No non-ephemeral aquatic habitats were present within the project parcel nor with reasonable adjacency
- No ephemeral aquatic habitats (in this case vernal pools) were present within the project parcel nor with reasonable adjacency
- No Saltbush/Shadscale[8] formations had reasonable adjacency to the project area, and;

[7] ibid
[8] CWHR. Undated.

- The extensive network of both paved and naturally-surfaced roads formed a significant barrier to the smaller animal species.

Species Removed from Consideration

The results of this initial assessment indicated that two species, the vernal pool fairy shrimp and delta smelt, did not warrant further consideration in this assessment. With respect to the vernal pool fairy shrimp the project site is completely surrounded by active agriculture, with the closest change to another terrain/land use type being 2.2 miles. No vernal pool habitats are within, or reasonably adjacent to, the project site. For the delta smelt there are no indications in the literature that the project site is anywhere close to the fish's range. The closest water body that potentially has some of the elements of the habitat used by the smelt (perennial nature, temperature regimes, salinity levels, etc.) is Lake Woollomes at a distance of 7.8 miles from the project site. However, this waterbody is part of a closed irrigation system, has no connection to a natural watercourse in the San Joaquin River System, and, thus, offers no spawning opportunity. Unless there is a sustainable isolated population of delta smelt, and no such observations evident in the material researched for this study, delta smelt cannot be impacted by implementing the project

A third species, the monarch butterfly, was also removed from consideration as it obligate hosts species for egg laying (primarily *Asclepias* spp.)[9] does not have a recorded presence within, or adjacent to the project site. Observations were recorded for California milkweed (*A, californica*)[10] and Indian milkweed (*A. eriocarpa*)[11], in Kern County but all were at distances greater than 13.6 miles. The most recent California milkweed observation within 25 miles was recorded in 1981 and the Indian milkweed observations were in 1953 and 1961. Observations for Skeleton milkweed (*A. subulata*)[12] and Spider milkweed (*A. asperula*)[13] and were confined in the eastern portions of the Mojave Desert. Regardless, if even present, these species would be controlled by removal in the pre-planting tillage operations and use of herbicides.

Species Considered and Resulting Conclusions

<u>San Joaquin Kit Fox (Vulpes macrotis mutica)</u>

The San Joaquin Kit Fox is a very mobile species with an individual's home range going from approximately 1 square mile[14] up to 9.3 square miles[15]. It was specifically noted[16] , that in fragmented landscapes impacted by irrigated agriculture and with limited natural community

[9] ECOS. 4 July, 2022a
[10] Calflora. 2022(a).
[11] Calflora. 2022(b).
[12] Calflora. 2022(c).
[13] Calflora. 2022(d).
[14] CWHR. May, 2000
[15] USF&WS. August, 2020.
[16] Cypher *et. al.* 2014.

availability (See Figure 1.1 and the associated discussion) the home range averaged only 1.3 square miles

California Wildlife Habitat Relationships records showed that, in the project area, no observations of presence of this fox after 1990[17].

It is, from within this home range, that an individual fox's needs to 1) acquire nourishment for itself and any off-spring, and, 2) that suitable nursery elements be available during the breeding season. Field examination of ground conditions within, and adjacent to, the project parcel indicated that of the Essential Habitat Offerings required for population sustainability, at least three are present in, or directly adjacent to, the project parcel: Prey populations, water sources, and daily cover. No burrows supporting birthing and brooding were observed during site visits and the high levels of surface disturbance associated with the intensive agricultural management would most likely prohibit their creation.

It was concluded that the pre-project site conditions (within and adjacent to the project parcel) would provide foraging opportunities and cover for daily concealment should the location be actually in use by the fox. However, parcel-specific implementation of the project, as described, would affect only the foraging potential for the 90-acre project site, and area that represent 1.1% of the maximum-sized home range. However, in consideration of the high mobility of this species and the post-2006 observations in the Bakersfield and Avenal areas[18]. It was concluded there could be an elevated likelihood of Kit Fox individuals using the project area for foraging purposes and mitigating actions should be considered.

Tipton Kangaroo Rat (*Dipodomys nitratoides nitratoides*)

Historical records showed an abundant presence of this species throughout the Tulare Basin and a strong association with annual grassland (AGS)[19], perennial grasslands (PGS)[20], saltbush/valley sink scrub (ADS)[21]. An increase in the acres converted to agricultural from theses natural formations has determined to have corresponding decreases in the numbers in all species of the kangaroo rat. The nature of this decline speaks to a basic incompatibility between the practices associated with agriculture (especially alfalfa) and the basic habitat elements these species need to have sustainable populations. Furthermore, Tipton kangaroo rat populations frequently are separated by physical barriers such as roads and canals that cannot be crossed[22]. Reviewing Figures 1.1 and 1.5 it can be seen that it would be highly unlikely for an individual of this species to appear within, or even adjacent to, the project due to the dense network of roads and canals between the project site and suitable habitat.

[17] CWHR. August 2020.
[18] Ibid.
[19] CWHR. April, 2005(a)
[20] CWHR. April, 2005(b)
[21] CWHR. Un-dated
[22] Bakersfield Conservation Plan, April, 2015

Habitat elements essential to the life cycle that are absent within the project site include:

- Burrow systems needed for birthing and brooding the young. The destruction of these features are generally a result of the tillage practices, as described in Section 1.2., annually implemented as part of site preparation, and,
- Seed sources that are eliminated by employing "weed' elimination practices and harvesting of a crop before mature seeds become available.

Based on the regional separation of the project site from known habitat types and the lack of essential habitat elements, primarily burrows and a food source, there is an insignificant likelihood that individuals of Tipton kangaroo rat will be present within, or directly adjacent to, the project site. Based on this species' expected absence it must be concluded that implementing this project as described will not have a significant adverse on the species.

Blunt-nosed Leopard Lizard (*Gambelia silus*)

Current information[23] shows that the project site does not fall within the range of this species. Conversion of historically native vegetation formations to agricultural uses has been cited as a primary reason for the species declining numbers and it designation as "Endangered"[24]. Preferred habitats, in order of decreasing favorability, are: 1) clump grass and saltbush grassland, with sandy soil, 2) washes with brush, in grassland, with sandy soil, 3) alkali flats, with saltbush in sandy or gravelly soil, and 4) grassland with hardpan soil. This lizard cannot survive on lands under cultivation however it may use edges adjacent to suitable habitat[25].

Based on the regional separation of the project site from known occurrences of preferred habitat types and the complete dominance of the project parcel by agricultural management, there is an insignificant likelihood that individuals of blunt-nosed leopard lizard will be present within, or directly adjacent to, the project site. Based on this species expected absence it must be concluded that implementing this project as described will not have a significant adverse effect on this species.

Giant Garter Snake (*Thamnophis gigas*)

The literature indicates that the project site does fall within the current general range for this species. However, the species apparently has been extirpated from locations in the San Joaquin Valley[26]. Essential habitat components for this species consist of: 1) adequate water during the snake's active season (early spring through mid-fall) to provide adequate permanent water to maintain dense populations of food organisms; 2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; 3) upland habitat with grassy banks and openings in waterside vegetation for basking; and 4)

[23] USF&WS, ECOS. March 21, 2018.
[24] USF&WS, Sacrament Office. July 15,2020.
[25] NatureServe. July 1, 2022(a).
[26] NatureServe. July 1, 2022(b).

higher elevation upland habitats for cover and refuge from flood waters during the snake's inactive season in the winter[27].

Given the out-of-range considerations and complete lack of essential habitat components the possibility that individuals of the species will have presence within, or adjacent to, the project site is basically nil. Based on this species' expected absence it must be concluded that implementing this project as described will not have a significant adverse effect on the giant garter snake.

Recommended Mitigations

Given findings of insignificant levels of adverse impacts it is concluded that no mitigating actions are warranted for the Tipton kangaroo rat, blunt-nosed leopard lizard, or giant garter snake. Due to the high mobility of the individuals in the Kit Fox population it is recommended that action be taken to 1) determine whether the fox has presence within, or in area immediately adjacent to, the project site, and 2) if presence is determine, identify, and implement, appropriate mitigating actions.

San Joaquin's Environmental Commitments

In general consideration of the natural resource values characterizing the project's setting and its operational needs the Applicant does agree to take the following two actions to minimize, or avoid altogether, adverse effects that could result from the project's implementation:

1. Retain a suitably credentialed and experienced consulting biologist to be responsible for conducting a presence survey for the San Joaquin Kit Fox. The consulting biologist will be responsible for the survey design, full field implementation, result analysis, and delivery of recommendations regarding any warranted mitigations, and,
2. Establish a 250-foot no-development buffer around the interior boundaries of the tailwater tank. The zone will originate from the outer lip of the basin and extend outward 250 feet. No facility construction-, or operational-related, activities are to occur within this zone throughout the life of the project.

The Applicant's letter stipulating to these commitments is attached.

[27] USF&WS, Portland Office. 1999.

This analysis was completed by Steven J. Daus, PH.D. in July of 2022. Dr. Daus received both a Bachelors' degree in Forestry and a Masters' degree in Forestry and Range Management from the University of California, Berkeley and subsequently a doctorate in Ecological Systems Analysis from the Graduate Ecology Group, University of California, Davis. Working in the field of regulatory compliance since 1972, Dr. Daus has completed in excess of 40 environmental impact studies in compliance with the following statutes and regulations:

- California Environmental Quality Act (CEQA)[28];
- California Forest Practice Rules and Regulation (FPR)[29] that are functionally equivalent to CEQA
- National Environmental Policy Act (NEPA)[30], and,
- 22 C.F.R., Part 161. NEPA Implementation for US-funded overseas projects[31].

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Calflora. Taxon Report 9703: Spider milkweed (*Asclepias asperula*). 2022(d). [https://www.calflora.org/app/taxon?crn=9703]

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[28] CEQA statute and Guidelines
[29] 14 CFR Chapters 2, 4, and 10
[30] 42 U.S.C. §§ 4321-4347. January, 1970.
[31] 22 C.F.R. Foreign Relations, Part 161, April, 2020.

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ATTACHMENTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2022-0056632
Project Name: San Joaquin Renewables

June 22, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Project Code: 2022-0056632
Event Code: None
Project Name: San Joaquin Renewables
Project Type: Power Gen - Natural Gas
Project Description: Woody biomass (agricultural-sourced) to renewable natural gas conversion facility.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.6868078,-119.28083915042698,14z

Counties: Kern County, California

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

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